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## ESSENTIALS FOR UNDERSTANDING INDIRECT COSTS

### INTRODUCTION

The reader must keep in mind that due to the nature of defense business, DoD requires a detailed knowledge of the internal cost structure of contractors; commercial customers do not require such knowledge. This is so because DoD negotiates the price of many contracts based upon the contractor's cost rather than upon price determined in a competitive marketplace. The reader should also keep in mind that the level of indirect costs is not necessarily an indicator of inefficiency. All businesses have indirect costs and they are a normal and necessary part of doing business.

The use of ambiguous terms throughout the indirect cost management process creates real problems for those uninitiated in government contracting terminology. This is true in both industry and government. For example, in practice, the term "overhead" is commonly used by many people in both industry and government to have the same meaning as the term "indirect cost." We will use the term indirect cost rather than overhead and will later discuss the differences between overhead and general and administrative expenses, which are both indirect costs. There are also many terms used interchangeably in industry that have the same meaning as overhead: "burden," "loading," "add-on," "management," and "factory expense." There are several classifications of costs as "either/or" that require a detailed explanation.

### DIRECT OR INDIRECT

Before a detailed discussion of indirect cost is undertaken, one must have a regulatory understanding of several terms. We must first understand direct costs before we can understand indirect costs. We will clarify the difference between direct and indirect costs, provide the reader with an understanding of the term "final cost objective," and provide examples of the types of direct and indirect costs typically found in defense contracting. At this point, the reader must recognize that there are many differences of opinion and disputes about whether certain costs should be classified as direct or indirect. So here it is necessary to refer to the Federal Acquisition Regulation (FAR) for certain key definitions.

FAR 31.001 defines a *cost objective* as a function, organizational subdivision, contract, or other work unit for which cost data are desired and for which provision is made to accumulate and measure the cost of processes, products, jobs, capitalized projects, etc. A *final cost objective* means a cost objective that has allocated to it both direct and indirect costs and, in the contractor's accumulation system, is one of the final accumulation points. For our purposes, one should think of a final cost objective as a specific contract.

FAR 31.202 defines a *direct cost* as any cost that can be identified specifically with a particular final cost objective. Costs identified specifically with a contract are direct costs of that

contract and are to be charged directly to the contract. All costs specifically identified with other final cost objectives of the contractor are direct costs of those cost objectives and are not to be charged to the contract directly or indirectly. Simply stated, costs are designated as direct costs because they are traceable to and identified with a specific contract.

*Direct material* refers to all material costs that are used in making a product and that are directly associated with a change in the product. It includes raw materials, purchased parts, and subcontracted items required to manufacture and assemble completed products. The ease with which direct material can be traced to the final product has a great deal to do with whether the material is considered as direct material. For example, miscellaneous small parts used in manufacturing aircraft may be considered too small and too inexpensive to justify either the cost or time required to keep track of their cost applicable to specific aircraft. For practical reasons, they may be classified as an indirect expense.

*Direct labor* is the labor identified with a particular final cost objective or contract. Engineering direct labor is that engineering work that is readily identified with the end product, such as design, testing, reliability, maintainability, quality, etc. Manufacturing direct labor includes fabrication, assembly, inspection, and testing required for producing the end product. The emphasis on direct versus indirect labor in the defense contracting environment is significant to the extent that many companies designate each employee as being either a direct or indirect employee. In an effort to more accurately drive cost to the appropriate contract or project and to reduce indirect costs, some companies may have labor that is referred to as “direct distributed,” “prorate,” “program direct support,” or some other company-specific term. These costs, such as engineering administration, program

support, scheduling, engineering liaison, are of an indirect nature, but are distributed as direct costs based upon the direct area supported.

Direct costs that are not materials or labor are generally referred to as *other direct costs* (ODC). This cost is one which by its nature may be considered indirect but, under some circumstances, can be identified specifically with a particular contract. It has all of the properties of direct material or direct labor cost, yet may or may not be a tangible part of the final product. As an example, if a consultant provides assistance on several diverse and general projects, the cost would be considered indirect and included in overhead. However, if the time the consultant spent benefited only one particular contract, then the cost would be charged to the contract on which the consultant worked and would be classified as ODC. Other examples of such direct costs could include special expenses for tooling, test equipment, insurance, travel, packaging, plant protection, and computer expenses. These “special costs” are direct because they are traceable to and identified with a specific contract.

From an accounting standpoint, a job or work order system is normally used by defense contractors to accumulate the direct costs of designing and manufacturing a company’s products or the performance of services under contracts. A separate series of work orders is opened for each contract, often numbering in the hundreds or thousands, to accumulate costs for various tasks such as engineering, tooling, fabrication, and assembly.

FAR 31.203 defines an *indirect cost* as any cost not directly identified with a single, final cost objective, but identified with two or more cost objectives or an intermediate cost objective. Stated differently, after direct costs have been determined and charged directly to the contract or other work, indirect costs are those remain-

ing to be charged to the several cost objectives. The regulation further provides that an indirect cost shall not be allocated to a final cost objective if other costs incurred for the same purpose, in like circumstances, have been included as a direct cost of that or any other cost objective.

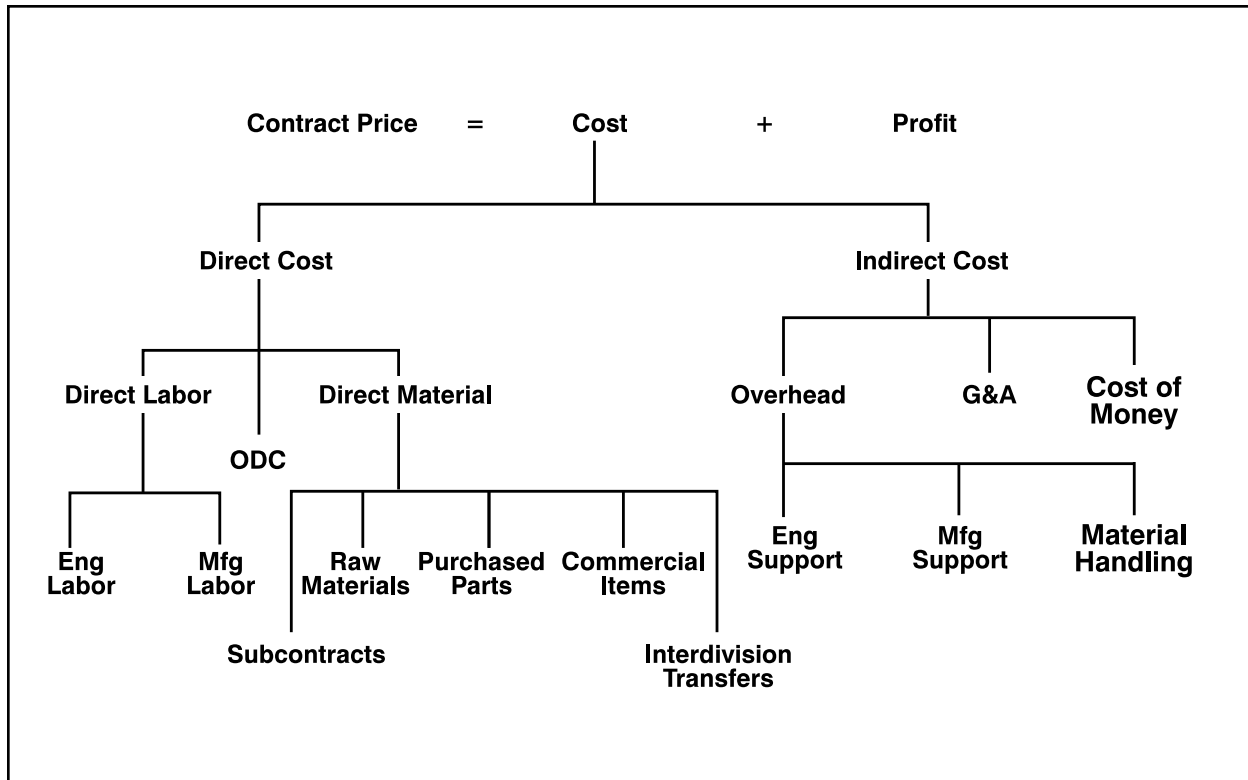
Unlike direct costs, indirect costs cannot be easily identified with one product or service. Because indirect costs are generally plant-wide costs, contractor concern for control is not solely motivated by any one contract. An example of such an indirect cost would be the costs for heating in the fabrication area that houses the work of many contracts. The heating benefits all contracts and cannot practically be identified to a specific contract. Other examples of indirect costs include salaries and wages of supervisors, foremen, and other indirect employees, nonproductive time of direct employees, fringe benefits for all employees, depreciation, insurance, taxes, rent, retirement plan contributions, and corporate management expenses allocated from the corporate office.

To fully understand the regulatory aspects, one should recognize that indirect cost primarily comprises two components: overhead and general and administrative expense. Overhead is that indirect cost related to a particular part of the company or plant such as engineering or manufacturing. General and administrative (G&A) expense is that indirect cost that supports the company as a whole, such as the chief executive's salary. The Cost Accounting Standards, which we will discuss later as unique government requirements, distinguish between overhead and G&A and require that certain allocation bases be used in some cases. The differences in overhead and G&A and the various types of overhead cost pools typically found in defense contracting will be discussed in greater depth in Chapter 3.

Exhibit 2, "Components of Contract Price," summarizes the composition of a typical government contract. As shown, there are two cost components—direct and indirect. Again, direct costs are identifiable to a particular contract and are categorized as direct labor, direct material, and other direct costs. Indirect costs relate to two or more contracts and are allocated to the appropriate contracts based on some beneficial or casual relationship. The total cost of a contract, then, is the sum of direct and indirect cost allocable to that contract. There are many methods for allocating indirect cost to contracts, which will be covered in Chapter 4. Note that an unusual item, called "cost of money," is also shown as an indirect cost. We will discuss this very unusual indirect cost later in Chapter 6 when we cover the unique government requirements relating to indirect costs.

It is important to keep in mind that the methods used to classify direct and indirect costs by individual contractors are very different. The accounting method selected by a contractor is influenced by several factors, for example, the number and type of contracts in the plant, competitive environment, personal preferences of management, and allocation methods used. However, to adequately manage its costs in a government contracting environment, a company must set firm criteria for the designation of all costs as direct or indirect. We will later discuss under the subject of cost accounting standards that some contractors are required to submit a disclosure statement, a comprehensive document in which the company describes in detail how it accumulates and allocates costs, including the specific identification of direct and indirect classifications.

In summary, if the cost is identifiable and benefits a specific contract, then it is charged directly to that contract. If the expense cannot be identified with, or does not benefit, a particular contract, it is charged to overhead or general



**Exhibit 2. Components of Contract Price**

and administrative expense and allocated to those contracts that do receive some benefit from it.

## **VARIABLE OR FIXED COSTS**

An important step in the control of indirect or overhead costs is the breakdown of all costs into two groups—fixed and variable. The various indirect costs do not all behave in the same way as production volume or business activity increases or decreases. One indirect cost may increase as result of a new contract award while another may remain unchanged. A knowledge of cost behavior is therefore very important for indirect cost forecasting and control. There are three broad categories of costs based upon the criteria of behavior over business volume: variable, fixed, and semivariable costs.

Variable costs fluctuate directly and proportionally with business activity (i.e., production volume or level of services provided). Without production there would theoretically be no variable costs. As Exhibit 3, “Cost Behavior,” shows, variable costs are constantly increasing as production increases. Labor, whether direct or indirect, is usually variable. For example, fabrication and assembly hours in the manufacturing area will increase or decrease with the quantity produced. Any change in manufacturing processes, labor rates, or employee training will affect variable labor costs. Other typical examples of variable costs found in the defense contracting environment are direct materials, fringe benefits, employer payroll taxes, royalties, testing, and miscellaneous small parts. Production support costs also are often variable. For example, the cost of electricity varies with machine use, which in turn varies with the volume of production. Also, numerous miscella-

neous factory supplies and expenses are planned in relation to the volume of direct manufacturing labor hours. Since variable costs are directly and proportionately related to productive activity, they are considered much more controllable than fixed costs.

Fixed costs are relatively constant and do not vary with changes in production volume in the short run, within reasonable limits of plant capacity. As Exhibit 3 shows, fixed costs are charted as a horizontal line, having the same total regardless of the volume or other measure of business activity. Many items of fixed costs relate to capacity. Some of these are depreciation of buildings and machinery, real and personal property taxes on buildings, equipment, and inventories, property and liability insurance, and rent. Fixed costs are sometimes called “period costs” because they relate primarily to

a period of time. Of course, if the period is long enough, all expenses will become variable. However, in the short run, a capacity cost often cannot be changed and, therefore, is considered to be fixed.

Fixed costs are established by management on a total plant basis for a broad range of activity and will remain unchanged within that “relevant range.” Theoretically, the relevant range represents the levels of activity over which cost relationships remain constant. That is, if volume increases (decreases), variable costs will increase (decrease) proportionately; however, fixed costs will stay fixed within the relevant range. If volume levels increase, capacity may be strained and additional fixed cost capability required. Although fixed costs are not initially established on a contract-by-contract basis, an award of a large contract could produce a sig-

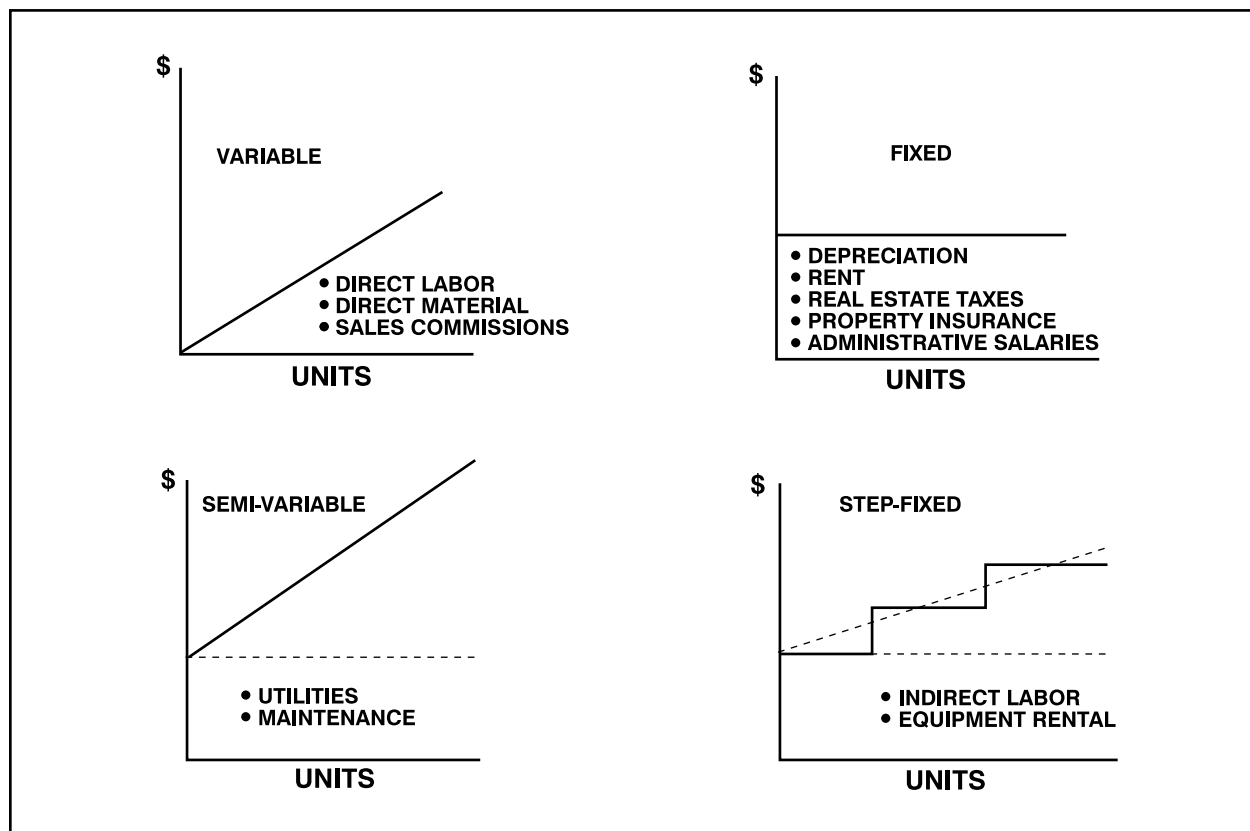


Exhibit 3. Cost Behavior

nificant change in production volume and the required level of facilities. Conversely, the loss of a large contract could result in idle capacity which produces serious overhead cost problems.

Fixed costs are often referred to as discretionary costs, indicating that control over these expenses rests with top management, who determine the amount of corporate investment in plants, equipment, and organizational size. Two very large discretionary costs in a defense contracting environment are independent research and development expenses (IR&D) and bid and proposal expenses (B&P). These indirect costs may often be increased even when current business volume is decreasing. For example, management's objective may be to gain a competitive advantage and to increase future business opportunities. Also, certain key personnel involved in research or proposal development activities might be so valuable to the company that they would be retained even if large volume decreases were experienced. It is interesting to note that some fixed costs are more fixed than others. For example, IR&D and B&P are usually budgeted by management on an annual basis and could therefore be considered as fixed for the year. But they could also be changed quickly by management decision. On the other hand, investments in plant and equipment are fixed for much longer periods of time and cannot be quickly changed.

Few indirect expenses behave over production as purely fixed or purely variable. A large number of expenses contain both fixed and variable components. As Exhibit 3 shows, these expenses often remain relatively fixed between various ranges of volumes and then advance or decline in a step-type function as volume changes occur. An expense of this nature might be the cost of renting a machine that, once available, can provide savings in per unit costs by handling a greater volume. Once its capacity is reached, however, greater volume can be

achieved only by renting an additional machine. Semivariable costs vary with volume but not proportionally. Examples of semivariable expenses are supervisory labor, repairs and maintenance, factory office salaries, social security taxes, and some utilities, such as telephones and electricity. Management control of semivariable expenses is accomplished by dividing them into fixed and variable portions and treating them accordingly. The fixed portion is considered to be the necessary expense at the lower level of the expected volume, and the difference between this and the higher level is treated as variable.

The fixed and variable analysis of indirect costs won't be found in published financial reports. But in all probability the company will have separated indirect costs into fixed and variable components for internal decision-making purposes. Most business decisions involve the selection of alternatives such as whether to make or buy, whether to accept a special offer at a lower price or not, or whether to increase capacity or not. A fixed versus variable analysis is needed for making such management decisions. Although a fixed and variable analysis should be available internally within every company, what one firm calls a fixed cost may be considered variable at another. The analysis of costs into fixed and variable components is a powerful tool for analyzing indirect costs. Rarely does defense business volume remain at one level. The process of classifying costs according to the behavior of the costs relative to changes in business volume leads the decision maker to become more knowledgeable about the cost drivers of indirect costs within a particular company.

It should be noted that the more fixed cost in a company's cost structure, the more volatile will be changes in overhead rates. This will become more apparent when we discuss the development of overhead rates in Chapter 4.

## **ALLOWABLE OR UNALLOWABLE COSTS**

Unfortunately for defense contractors, one of the most significant factors affecting indirect costs as well as profitability is the meaning of allowable versus unallowable costs. This differentiation does not exist in the commercial world. From the contractor's perspective, there are many normal and necessary expenses for operating a business that the government will not pay for. From the government's perspective, there are many expenses that are not considered necessary for government work or are considered to be contrary to public policy for various reasons.

The specific criteria for cost allowability is contained in FAR Section 31.201. Factors to be considered in determining the allowability of individual items of cost include: (1) reasonableness, (2) allocability, (3) cost accounting standards published by the Cost Accounting Standards Board, otherwise generally accepted accounting principles, (4) terms of the contract, and (5) any limitations in the Federal Acquisition Regulation (FAR). There are about 50 selected items of costs spelled out in FAR Section 31.205 for special consideration as to the allowability of the costs on government contracts. These selected items, which are subject to frequent change, are commonly referred to in practice as the "Cost Principles." Both contractor and government personnel working on negotiated defense contracts must have personnel who are very familiar with these rules and regulations.

Because of the recent media attention, many contractors have adopted an additional "media sensitivity" test for allowability: "Before I include this cost in an overhead claim to the government, would I want to read about it in the newspaper in the morning?" As a result of congressional interest in the past few years, em-

phasis has been placed on increasing the types of costs that are unallowable. Also, Congress has enacted statutes providing for strong penalties if contractors do not comply with unallowable cost provisions. Most recently, Congress has passed limitations on the compensation for individuals that can be charged to defense contracts. Such congressional actions have been highly controversial in industry. Since most unallowable type costs are of an indirect or overhead nature, we will discuss them in more detail and provide examples in Chapter 6.

## **CAPITALIZED VERSUS EXPENSED**

In order to understand indirect costs in the defense industry, one must appreciate that there is a tremendous difference to both the government and the contractor as to whether a particular cost is capitalized or expensed. From an accounting standpoint, the total costs of items that are acquired for relatively small amounts for general purpose use are typically classified as expenses and are placed into indirect cost pools for subsequent allocation to many contracts. However, the costs of such items for relatively larger amounts are classified as assets and are considered to be capitalized. In the case of capitalized items, only a portion of the costs is placed each year into indirect cost pools in the form of a depreciation expense.

In general, the capital versus expense distinction normally relates to plants, equipment, and other fixed assets. For example, when a company buys a machine not intended for sale, it generally expects to use the machine over and over again for the benefit of many contracts for a number of years. Therefore, the company records the cost of the machine as an asset and not as an expense. An asset is simply a valuable item that is owned or controlled by the company. In each subsequent accounting period when the machine is put into use, an appropriate portion of the cost of the machine is

written off as an expense based on the estimated service life of the machine. This expense is called depreciation and represents the systematic allocation of the cost of the asset over its estimated useful life. It also represents the decline in useful value of the asset, due to wear and tear from use and passage of time. As an example, assume that a general purpose machine to be used in the manufacturing area is purchased by a contractor for \$12,000. The installation and check-out costs are \$4,000. Further, assume that the machine has an expected useful life of eight years and is placed into use at the beginning of the year. Using a “straight-line” method of depreciation, one allows \$2,000 (\$16,000 divided by 8 years) of the total cost of the machine for each year as an indirect expense for depreciation. Recognize that there are many acceptable ways of depreciating assets in addition to the straight-line method, but it is the simplest. Regardless of the method of computation, as a general rule, depreciation expenses for all assets are indirect or overhead costs. It is important to note that the entire \$16,000 was not classified as an indirect expense in the first year. It is particularly important from a defense contracting perspective, because a contractor can bill the government immediately under a cost type contract for an appropriate allocation of indirect expenses. However, he cannot bill for the full capitalized amount of the asset at the time that it is purchased. Further, one should recognize that many companies follow a business practice of charging all asset expenditures of relatively small amounts to expense instead of recording them as assets. They thus avoid excessive accounting work. Given the large investments in assets and complexity of the defense business, with its many cost-based contracts, one would expect very specific rules governing the capitalization and expensing of assets. We will discuss this further in Chapter 7 when we cover the Cost Accounting Standards (CASs), specifically CAS 404, “Capitalization of Tangible Assets.”

Amortization, which is similar to depreciation, is a term commonly used in the defense industry. Amortization is the periodic writeoff or expensing over the estimated life of certain unique assets, often program related, such as special tooling, special test equipment, and initial computer programming costs. Amortization and depreciation expenses are usually substantial amounts of indirect or overhead cost for weapon system contractors.

### **CONTROLLABLE OR NONCONTROLLABLE COSTS**

Since indirect costs relate to and are allocated to more than one cost objective, they are much more difficult for management to control than direct costs. To deal with this problem, some companies follow an internal practice of breaking down indirect or overhead type costs organizationally as either controllable and noncontrollable. This classification is based upon the ability of a given manager to personally control the costs. The concept provides an excellent managerial tool for relating organizational structure and decision-making authority to specific activities that caused the costs to be incurred. This managerial control technique, sometimes called “responsibility accounting,” will be discussed in further detail in Chapter 5 when we discuss how the defense industry typically manages indirect costs. Bear in mind that company organizations differ, and there are substantial differences in how companies break down their indirect costs between controllable and noncontrollable elements.

The basic principle of responsibility accounting is that indirect costs should not be allocated to a manager unless the manager can exercise control over costs incurred. The manager of a parts fabrication shop, for example, has direct control over and is concerned with the amount of direct labor, direct material, and other direct costs expended on specific shop orders for

building detailed parts to be fed into assemblies. In addition, he may have control over such indirect costs as labor of foremen, training time, overtime, time spent waiting for work, and call-in of manufacturing engineering. However, there are usually other costs charged to his organization that he cannot control. For example, he cannot control the depreciation on the building that he is occupying, the depreciation on the machinery and tooling that his personnel are using, or the allocation of costs from service organizations such as the computer center. Such allocated expenses are often separated from nonallocated or noncontrollable expenses in order to focus the manager's attention on the expenses that he can control.

In the short run, there are many indirect costs that cannot be quickly reduced and consequently are considered to be uncontrollable. They typically include expenses for taxes, such as state income, sales, and franchise taxes, local property taxes, royalties, insurance premiums, employer payroll taxes, and depreciation. However, in the long run, almost all costs are controllable to a certain degree by someone in the corporation. Costs incurred beyond the control of a department manager are uncontrollable cost to the department but generally are controllable by a higher manager, such as the plant manager. Examples of these plantwide costs would be employee welfare expenses for such

costs as operating a company cafeteria, operation of a medical facility, and providing an annual summer picnic for all employees. A portion of these costs would have to be allocated to all departments.

The costs of service departments may present managerial control problems. For example, the cost of a large computer services department is the overall responsibility of the computer services department head. However, service costs that can be controlled by operating departments (such as requests for specific computer services) should be the responsibility of operating department managers.

Recently, some defense companies have been getting away from the classification of costs as controllable and noncontrollable. Some are very opposed to and do not allow the use of the term noncontrollable cost. Their basic tenet is that there is no such thing as an uncontrollable indirect cost and they do not want their managers to think in these terms. They want them to focus on a management philosophy that all costs must be controlled at every organizational level and that any cost allocated to their organization should be questioned. We will cover this management view further in Chapter 5, when we discuss what defense contractors have recently done to reduce overhead costs.

